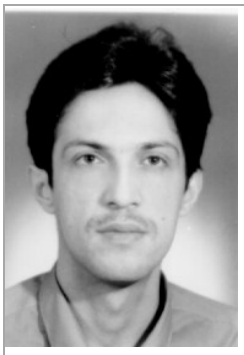

Mohammad-Reza Rafiei, Ph.D.
IEEE Senior Member
Assistant Professor
Faculty of Electrical & Robotics Engineering
Shahrood University of Technology
Shahrood, Iran
Email Address: *rafiei@ieee.org, rafiei@shahrood.ac.ir*

PERSONAL

Date of Birth: 1969

Place of Birth: Tehran, Iran

Citizenship:Iranian

EDUCATION:

Ph.D. (1995- 2000), Electrical Engineering (Control/Power Electronics), Ferdowsi University of Mashhad, Mashhad, Iran, Outstanding Degree (Excellent Graduate) Advisors:
Dr. Reza Ghazi, Associate Professor, Dept. of Electrical Eng., Ferdowsi University of Mashhad, Mashhad, Iran
Dr. Hamid A. Toliyat, Professor, Dept. of Electrical Eng., Texas A&M University , Texas, USA.

M.Sc. (1992-1995), Electrical Engineering, Ferdowsi University of Mashhad, Mashhad, Iran, 1995, (Excellent Graduate) . Advisors:
Dr. Hamid A. Toliyat, Dept. of Electrical Eng., Texas A&M University , Texas, USA.
Dr. Reza Ghazi, Dept. of Electrical Eng., Ferdowsi University of Mashhad, Mashhad, Iran

B.Sc (1987-1991) , Electrical Engineering (Electronics), Sistan & Baluchestan University, Zahedan, Iran, 1991, (Excellent Graduate)

RESEARCH INTERESTS:

- **Modeling & Control Techniques of Power Electronic Systems**
- **Power Electronics:** Converter Circuits and Topologies, PWM Strategies, Modeling and Control of Power Converters, Applications to Power Systems (SVC, HVDC, FACTS…)
- **Sensors and Measurement**
- **Matrix Converter Based Control of Electric Machines**

- **Power Quality, Harmonics, and Active Power Filters**
- **Control Systems** H_inf Robust Control, Nonlinear and Chaotic Systems, Intelligent Systems, Fuzzy Logic based Control, Neural Networks, Adaptive Control.
- **Computer Based Control**

SERVICES (Journal Reviews, Conference Reviews, Technical Committee Memberships) :

- Reviewer for the **IEEE Transactions on Industrial Electronics**
- Regular Reviewer for the **IEEE Transactions on Power Delivery , Power Systems, and Energy Conversion** (in The Field of Power Quality, Power Electronics, and Control)
- Reviewer for the **Elsevier** Journal on Neuro-Computing.
- Reviewer for the International Journal of Energy Technology and Policy (IJETP)
- Reviewer for the **IASTED** International Journal of Modeling and Simulation
- Reviewer for the Iranian Journal of Science & Technology (ijst) , Shiraz University, Shiraz, Iran
- Reviewer for the Journal of Engineering Faculty of Ferdowsi University of Mashhad, Mashhad, Iran
- Reviewer for the Journal of Engineering Faculty of Tabriz University, Tabriz, Iran

- **Member of Program Committee, 7-th Iranian Conference on Intelligent Systems, Shahrood University of Technology, Shahrood, August 2005.**

- Member of Board of Reviewers, IEEE Region 8 EUROCON 2005, The International Conference on "Computer as a tool", Belgrade, 2005.
- Reviewer for the **IEEE** IECON'05 Conference (Power Electronics Track), November 2005, Raleigh, North Carolina, USA.
- Reviewer for the **IEEE** IECON'05 Conference (Power Electronics Track), November 2005, Raleigh, North Carolina, USA.
- Reviewer for the **12th IEEE Mediterranean Electro-Technical Conference**, MELECON 2004.
- Reviewer for the 14-th International Conference on Power Systems (PSC-99), Iran Energy Research Center, Tehran, Iran, 1999.
- Reviewer for the 11-th Iranian Conference on Electrical Engineering (ICEE-2003), Shiraz University , Iran.
- Reviewer for the 10-th Iranian Conference on Electrical Engineering (ICEE-2002), Tabriz University, Iran
- Member of Selection Committee, Faculty of Electrical Engineering, Sahand University of Technology, 2001
- Member of Informatics Board, Sahand University of Technology, 2001
- Member of Research Board of Sahand University of Technology, 2003

EMPLOYMENT HISTORY :

- **Assistant Professor, Faculty Electrical & Robotics Eng., Shahrood University of Technology, Shahrood, Iran, since Dec. 2004.**

- **Adjunct Assistant Professor, Department of Electronics Eng., Azad University, Garmsar Branch, Garmsar, Iran, since Feb. 2004.**

- Visiting Researcher, Dept. of Electrical & Computer Engineering, University of Toronto, Toronto, Canada, Nov. 2003-Nov. 2004

- Assistant Professor, Faculty Electrical Eng., Sahand University of Technology, Tabriz, Iran, Feb. 2001- Dec. 2003.

- General Director of Research Affairs, Sahand University of Technology, Tabriz, Iran (Feb. 2003- Oct. 2003): Managing whole Research Affairs of the University Including Research Affairs, Industrial Relations Office, and University Publications**.**

- Invited Assistant Professor and Member of Committee for Founding a New Ph.D. Program in Control Theory and Application of Mathematics to Electrical Engineering, Department of Electrical Eng., Kerman University, Kerman, Iran (Sept. 2002-Feb. 2003)

- Assistant Professor, Department of Computer & Electrical Eng., Azad University of Birjand, Birjand, Iran (Teaching Computer Science and Engineering: Sept. 2000-Feb. 2001)

- Lecturer, Department of Computer & Electrical Eng. Azad University of Birjand, Birjand, Iran (Teaching Computer Science and Engineering: Jan 1998- Sept 2000)

- Project Leader and Consultant for Several Power Companies, Iran

PRIZES & HONORS

- IEEE Senior Member, 2004
- Chair of " Control Applications to Power Electronics" Session, IEEE Conference on Control Applications, CCA 2003, Turkey, June 23-25, 2003.
- Selected as a designer in the field of Control Systems, for the national-wide graduate study entry exams, Iranian Ministry of Science, Research, and Technology, Iran, 2003-2004.
- Excellent Researcher, Faculty of Electrical Engineering, Sahand University of Technology, 2002 (Honor Plaque and Cash Prize)
- Best Teaching Qualification, Ranked by Undergraduate Students, Sahand University of Technology, 2002.
- Invited Speaker on the " Modeling and Control Techniques of Power Electronic Systems," Sahand Univ. of Technology, Tabriz, Iran, Dec. 2002.
- Chancellor of Ferdowsi University of Mashhad, Prize and Honor Plaque for the Ph.D. Dissertation with Highest Qualification in the Faculty of Engineering, Ferdowsi University of Mashhad, Mashhad, 2001
- Qualified Ph.D. Graduate, Faculty of Engineering, Ferdowsi Univ. of Mashhad, Mashhad, Iran, 2000.
- Iranian Ministry of Science, Research, and Technology Scholarship for Ph.D. Program.
- Iranian Minister of Energy Prize, and Honor Plaque for Presenting a Paper on "Load Management" in PSC-99 Conference, 1999

- Iranian Minister of Energy Prize, and Honor Plaque for Presenting a Review Paper on "Active Power Filters" in PSC-98 Conference, 1998
- Khorassan Regional Power Company Research Board Prize for Presenting a Review Paper on "Active Power Filters" in PSC-98 Conference, 1998
- Mobarakeh Steel Industry Company Cash Prize and Honor Plaque, an Award to the Excellent Students, 1990
- Dept. of Electrical Engineering, Sistan & Baluchestan University Honor Plaque for Excellent Graduates, 1991.
- Iranian Ministry of Energy Prize for Presenting a Review Paper on "Load Management" in Electric Energy Management Seminar, 1996.

· Author of one of the Outstanding Papers Recognized in ICEE-95 Conference, Iran

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PUBLICATION

BOOKS: .Translation: " Feedback Control Theory " (Under Translation).

JOURNAL PAPERS (ISI):

- **S.M.R. Rafiei**, Reza Iravani, "Optimal and Adaptive Compensation of Voltage and Current Harmonics under Non Stiff Voltage Conditions, submitted to IEE Journal of Generation, Transmission, and Distribution.
- Ghazi, **S.M.R. Rafiei**, and H.A. Toliyat, "A Programmable Control Strategy for Optimal and Flexible Active Filtering and Power Factor Correction under Non Sinusoidal Line Voltages, " Iranian Journal of Science & Technology (ijst) , Transaction B, Volume 26, Number B4, 2002, pp 579-596, Shiraz University, Shiraz, Iran , *ISSN 0363 - 1307*.
- **S.M.R. Rafiei**, R. Ghazi, and H.A. Toliyat, "IEEE-519 Based Real Time and Optimal Control of Active Filters under Non-Sinusoidal Line Voltages using Neural Networks, " IEEE Transactions on Power Delivery, Vol. 17, No. 3, July 2002, pp 815-822.
- **S.M.R. Rafiei**, H.A. Toliyat, and R. Ghazi, "An Optimal and Flexible Control Strategy for Active Filtering and Power Factor Correction under Non Sinusoidal Line Voltages, " IEEE Transactions on Power Delivery, Vol. 16, No. 2, April 2001, pp 207-305.

CONFERENCE PAPERS (Power Electronics/Control Systems/Power Quality):

1. **S.M.R. Rafiei**, R. Ghazi, R. Asgharian, and H.A. Toliyat, " Robust Control of dc/dc PWM Converters: A Comparison of H_Infinity, Miu, and Fuzzy Logic Based Approaches," IEEE Conference on Control Applications, CCA 2003, Turkey, June 23-25, 2003.
2. **S.M.R. Rafiei**, "Optimal and Adaptive Voltage and Current Harmonics Compensation under Non Stiff Voltage Conditions, "IEEE Conference on Control Applications, CCA 2003, Turkey, June 23-25, 2003.

3. **S.M.R. Rafiei**, “Optimal and Adaptive Active Filtering under Non Stiff and Distorted Voltage Conditions, “IEEE PES General Meeting 2003, Canada, July 2003.
4. **S.M.R. Rafiei**, “Neural Network Based Adaptive Phase and Amplitude Equalizer for Optimal and Robust Control of the Current Regulated PWM Inverters, “35th IEEE Southeastern Symposium on System Theory, USA, May 2003.
5. **S.M.R. Rafiei**, R. Ghazi, and H.A. Toliyat, " Application of Neural Networks Based Real Time and Optimal Control of Active Power Filters under Three-Phase Non-Sinusoidal /Unbalance Voltages,” Ten-th Iranian Conference on Electrical Engineering (ICEE-2002), Tabriz University, Tabriz, Iran, 2002.
6. **S.M.R. Rafiei**, R. Ghazi, and H.A. Toliyat, " Real-Time and Optimal Control of Programmable Active Power Filters for Harmonic Compensation and Power Factor Optimization in Non-Sinusoidal Line Voltages using Neural Networks,” eight-th Iranian Conference on Electrical Engineering (ICEE-2000), Isfahan University of Technology, Isfahan, Iran, 2000.
7. **S.M.R. Rafiei**, A.A. Gharahveicy, M.H. Javidi, and M.A. Validad, "An Algorithm for Optimizing the Load Curve of Industrial Towns,” the 14-th International Conference on Power Systems (PSC-99), Iran Energy Research Center, Tehran, Iran, 1999.
8. **S.M.R. Rafiei**, R. Ghazi, and H.A. Toliyat, "New and Programmable Control Strategy for Active Filters under Non-Sinusoidal Line Voltages using Virtual Voltages, “, the 14-th International Conference on Power Systems (PSC-99), Iran Energy Research Center, Tehran, Iran, 1999.
9. **S.M.R. Rafiei**, R. Ghazi, H.A. Toliyat, "Review of Research Trends in Active Filtering for Harmonic Elimination and Power Quality Improvement,”, Proceedings of 13-th International Conference on Power Systems (PSC-98), Iran Energy Research Center, Tehran, Iran, 1998.
10. **S.M.R. Rafiei**, R. Ghazi, Control of Instability and Chaos in Electronic Systems using Fuzzy Logic Based Controllers,” Proceedings of 3-th Seminar on the Differential Equations and Dynamical Systems, Zanjan Higher Education Center, Zanjan, Iran, 1999.
11. **S.M.R. Rafiei**, M. B. Menhaj, " Design of a Self Tuning Adaptive Controller for dc/dc CUK Converter using H_Inf Robust Controller and Multi Sampling Rate RLS Identification Method, " Proceedings of Sixth Iranian Conference on Electrical Engineering (ICEE-98), Khajeh Nasir Toosi University, Tehran, Iran, 1998.
12. **S.M.R. Rafiei**, R. Ghazi, H.A. Toliyat, "Modeling and Digital Control of Current Regulated PWM By Reduced Sampling Frequency-Experimental Results,” Proceedings of Sixth Iranian Conference on Electrical Engineering (ICEE-98), Khajeh Nasir Toosi University, Tehran, Iran, 1998.
13. **S.M.R. Rafiei**, R. Ghazi, H.A. Toliyat, "Design and Fabrication of Active Power Filter using Narrow-Band IIR Digital Filter with Modified Phase Characteristics,” Proceedings of Sixth Iranian Conference on Electrical Engineer (ICEE-98), Khajeh Nasir Toosi University, Tehran, Iran, 1998.
14. **S.M.R. Rafiei**, R. Ghazi, H.A. Toliyat, "Modeling and Digital Control of Current Regulated PWM By Reduced Sampling Frequency-Theory," Proceedings of Fifth Iranian Conference on Electrical Engineering (ICEE-97), Sharif University of Technology, Tehran, Iran, May 7-9, 1997.
15. **S.M.R. Rafiei**, and M.R. Jahed-Motlagh, "Design of Characteristics Loci Based Multivariable Controller for Switched Mode SVCs, " Proceedings of Fifth Iranian

Conference on Electrical Engineering (ICEE-97), Sharif University of Technology, Tehran, Iran, May 7-9, 1997.

16. **S.M.R. Rafiei**, A.A. Gharahveicy, and M.A. Validad, " Effect of Power Electronic Systems on Optimizing the Consumption of Electric Power - a Review, " Electric Energy Management Seminar, Khorasan Regional Power Company and Iranian Ministry of Energy, Mashhad, Iran, 1996.
17. R. Asgharian, and **S.M.R. Rafiei**, " Control of PWM dc/dc Converters using H_Inf Robust Controllers," Proceedings of the Third Iranian Conference on Electrical Engineering (ICEE-95), University of Science and Technology, Tehran, Iran, May 15-18, 1995.
18. R. Asgharian, **S.M.R. Rafiei**, and A. Hashemi-Attar, " Compensation of Structured Uncertainties on the modeling of Switched Mode PWM dc/dc Converters using Miu Analysis and Synthesis Approaches, " Proceedings of the Third Iranian Conference on Electrical Engineering (ICEE- 95), University of Science and Technology, Tehran, Iran, May 15-18, 1995.
19. R. Ghazi, H. A. Toliyat, **S.M.R. Rafiei**, "A Fuzzy-Genetic Pulse Width Modulation for Active Power Filters," Proceedings of the IEEE/ Stockholm Power Tech, Stockholm, Sweden, June 18-22, 1995, pp. 267-272.
20. **S.M.R. Rafiei**, H.A. Toliyat, R. Ghazi, "A New Method for Harmonic Identification using Digital Filters," Proceedings of the Third Iranian Conference on Electrical Engineering (ICEE -95), University of Science and Technology, Tehran, Iran, May 15-18, 1995, pp. 331-338.
21. R. Ghazi, H.A. Toliyat, **S.M.R. Rafiei**, "A Simple Fuzzy Logic Based Modulator for Sinusoidal PWM Inverters," Proceedings of the Third Iranian Conference on Electrical Engineering (ICEE- 95), University of Science and Technology, Tehran, Iran, May 15-18, 1995, 29-35.
22. **S.M.R. Rafiei**, and H.A. Toliyat, "Instability and Chaos in Buck Converters- Two Dimensional Mapping," Proceedings of the Second Iranian Conference on Electrical Engineering (ICEE-94), Tarbiat Modaress University, Tehran, Iran, 1995.
23. **S.M.R. Rafiei**, H.A. Toliyat, and R. Ghazi, "A Fuzzy Pulse Width Modulator for Power Converters," Proceedings of the International Conference on Application of Fuzzy Systems (ICAFS-94), University of Tabriz, Tabriz, Iran, Oct. 14-17, 1994, pp. 101-110.
24. H.A. Toliyat, and **S.M.R. Rafiei**, "Analysis and Compensation of Nonlinear Systems in Power Electronics," Proceedings of the First Iranian Conference on Electrical Engineering (ICEE-93), Amir-Kabir University of technology, Tehran, Iran, May 18-21, 1993.

Comments:

* ICEE is a creditable annual conference on Electrical Engineering in Iran that is supported by IEEE, IEE, all the Iranian Universities, Research Centers, and Industrial Ministries.

** Some papers are in Persian

LECTURES AND SHORT COURSES

A. Electrical Engineering (Graduate and Undergraduate Levels):

· **Reactive Power Control in Electric power Systems.**

. **Modern Control Systems** (State Space Modeling, Controllability, Observability, Realization Theory, Stability, State Feedback, Optimal Observers, Optimal Control)

· **Linear Control Systems** (Time & Frequency Domain Analysis and Design of Control Systems, State Space)
· **Instrumentation** (Measurement of: Position, Stress, Strain, Pressure, Height, Heat, and Velocity. Optical Sensors, Microwave Sensors, Radioactive Sensors,..., Reliability of Measurement Systems) .
· **Engineering Mathematics & Statistics**
· **Advanced Engineering Mathematics** (Advanced Linear Algebra, Nonlinear and Time Varying Differential Equations, Advanced Fourier Transform, Optimization Techniques)
· **Power Electronics** (Power Devices, Analysis and Design of AC/DC, DC/AC, DC/DC, and AC/AC Converters, PWM Techniques, Applications to Power Systems.)

· **Special Loads** (Harmonics, Voltage Stability, Power Definitions in Non Sinusoidal Conditions, Arc Furnaces, Induction Heating, Power Converters, Transient Response of Electric Machines, Constant Power /Energy/Current Loads, Harmonics and Reactive Power Compensation, SVCs, Active Power Filters, Thyristor Switched Capacitors)

· **Industrial Electronics**
· **Engineering Statistics**
· **Engineering Mathematics**
· **Electric Measurements**

B. Computer Science & Eng. (Undergraduate Level , Iran, 1998-2001):

· **Data Base** (EER and NIAM Models, Relational Data Bases, Relational Algebra, SQL)

· **File Systems and Structures** (Records, Blocking Techniques, Disk and Tape Analysis. File Structure: Pile, Sequential, Indexed Sequential, Multi Indexed, Direct Files,...)
· **Operating Systems** (OS Layers, Process Management, Storage Management, Virtual Storage, Paging and Segmentation, Resource Management, Dead Locks, Unix OS, ...)
· **Computer Aided Design** (AutoCAD, Matlab and their applications)
· **Data Structure** (Data Structures and Their Applications: Lists, Arrays, Queues, Stacks, Binary Trees. Algorithms and Their Complexity: Quick Sort, Bubble Sort, Heap Sort, Binary Search,....,Data Structure with C)
· **Special Topics in Computer Science** (Matlab and Scientific Languages)

· **Computer Networks** (OSI and TCP/IP Models, Physical Layer: Pulse encoding/Decoding, Shannon and Nyquist Theorems, TP, UTP, Coaxial, Fiber Optics, Microwave and Satellite Systems. Data Link Layer: Framing Techniques, Flow Control, Data Link Layer Protocols,

Sliding Window Protocols, HDLC Protocol, Error Encoding/Decoding, CRC and Hamming Codes. Network Layer: Circuit Switching, Virtual Circuit Switching, Packet Switching, Routing Algorithms, Traffic Control...)

C. Short Courses (In Industries):

· Neka Power Generation, Iran, 1998, presented a short course on "Power Electronics" (51 hours) for Electrical Engineers.
· Sistan & Baluchestan Regional Power Company, Iran, 1998, presented a short course on "Power Electronics" (51 hours) for Electrical Engineers.
· Sistan & Baluchestan Regional Power Company, Iran, 1998, presented a short course on "Design of Distribution Systems" (20 hours) for Electrical Engineers.
· Sistan & Baluchestan Regional Power Company, Iran, 1997, presented a short course on "Safety Against Electric Shock" (18 hours) for Electrical Engineers.
· Sistan & Baluchestan Regional Power Company, Iran, 1998, presented a short course on "Safety Against Electric Shock" (18 hours) for Electrical Engineers.
· Toos Power Generation, Iran, 1998, presented a short course on "Voltage Control and Reactive Power Compensation "(51 hours).
· Toos Power Generation, Iran, 1997, presented a short course on "Electronic Components of Control Systems" (34 hours).

· Khorasan Regional Power Company, Iran, 1998, presented a short course on "Special Loads" (15 hours) for Electrical Engineers.

D. Lab Supervising /Founding:

· Industrial Electronics Lab
· Electronics Lab
· Control Systems Lab
. Electric Circuits & Measurement Lab

E. Teaching Assistantship (1989-1992)

· Electronics 1, Electronics 2, Electronics 3, Communication Circuits, Communication Systems 1, Electric Circuits 1, Computer Elements Lab

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RESEARCH WORKS SUPERVISED OR UNDER SUPERVISION:

- Adaptive Control of PWM Inverters for Optimal Tracking of Harmonic Reference Signals using Neural Network Based Phase and Amplitude Equalizers, Vice President in Research, Sahand University of Technology, Iran, 2002. PI: S.M.R. Rafiei.

  Active Research Team : One Ph.D., and Two Undergraduate Students.

- Comprehensive Analysis of Application of Adaptive Control Based Active Power Filter System for Compensating the Nonlinear Loads, Vice President in Research, Sahand University of Technology, Iran, 2001. PI: S.M.R. Rafiei.

  Active Research Team : Three Ph.D., and Two Undergraduate Students.

- Load Management in Industrial Towns of Iran (Power Quality, Harmonics, Load Forecasting, Voltage and Dynamic Stability, Load Curve Improvement...), **Phases 1-3**, National Research Project of Iran, Grant No. 2351,Scientific Research Board of Iran, Vice President of Islamic Republic of Iran, Iran, 1999. PI: S.M.R. Rafiei, Co-PIs: A. Gharahveicy, and M.A. Validad.

  Active Research Team : Two Ph.D., Two Ph.D. Students, and Two Engineers.

- Application of Fuzzy Controller for Stabilizing the Switching Behavior of dc/dc PWM Converters and Sub-harmonics and Chaos elimination, Vice President in Research, Ferdowsi University of Mashhad, Iran, 1999. PI: R. Ghazi, Co-PI: S.M.R. Rafiei.

  Active Research Team : One Ph.D., and One Ph.D. Student.

- Load Management in Industrial Towns, Phases I&II, Khorasan Regional Power Company, Iran, 1997. PI: S.M.R. Rafiei, Co-PI:. A. Gharahveicy,

  Active Research Team : Two Ph.D. Students, and One Engineer

- Load Management in Industrial Towns, Phases III&IV, Khorasan Regional Power Company, Iran, 1998. PI:S.M.R. Rafiei.

  Active Research Team : Two Ph.D. Students, and One Engineer

RESEARCH WORKS PERFORMED AS A RESEARCHER:

- Design and Implementation of a Microprocessor Based Active Power Filter, Iranian Ministry of Energy Research Board, Iran, 1997. PI: H.A. Toliyat
- A Microprocessor Based Central Telephone, Dept. of Electrical Engineering, Sistan & Baluchestan University, 1991.
- Medium-Power Switching Regulator, Dept. of Electrical Engineering, Sistan & Baluchestan University, 1990.

STUDENT/LAB PRACTICAL PROJECTS SUPERVISED:

1. Micro-controller Based Remote Control of DC Motor via Infrared Sensors
2. Micro-controller Based Remote Control via Infrared Sensors with CRC Code Producer/Checker
3. Real-Time LQG Based Optimal Control of DC Motor
4. Computer Based Position Control of Stepper Motor
5. Design and Implementation of Thyristor Switched Capacitor SVC for Reactive Power Compensation

6. Design and Implementation of Microprocessor Based On-Off Temperature Control System
7. Computer Based Position Measurement using LVDT Sensors
8. Computer Based Force Measurement System using Mass/Spring Sensors
9. Digital Optical Velocity Sensor
10. Hardware Based HCT2000 Quad Precisions Position Sensor Emulator
11. Computer Based Programmed PWM (Harmonic Eliminated) Inverter
12. Computer Based Single Pulse PWM Inverter
13. Micro-controller Based Distance Measurement using Ultrasound Receiver/Transmitter
15. Design and Implementation of Microprocessor Based Current Sensor using Hall Effect Sensors
16. Design and Implementation of a Linearized Temperature Measurement System using NTC Sensors
17.On-Line Power Quality Factors Monitoring (THD, DF, Power Factor...) using Matlab Data Acquisition Tool Box
18. Matlab Based Real-Time and Adaptive Control of PWM Inverters using Neural Networks
19. Matlab - Real-Time Based Programmed PWM (Harmonic Eliminated) Inverter using Neural Networks
20. Matlab - Real-Time Based Robust Control of PWM Inverters using Fuzzy Logic Based Controllers

---

SOFTWARE & PROGRAMMING SKILLS

C, ASSEMBLY, BASIC, FORTRAN, SQL, MATLAB/ SIMULINK, AUTO CAD, EMTP, PSPICE

Title of Ph.D. Dissertation: "Optimal and Flexible Strategy for Adaptive Control of Active Filters under Non-Sinusoidal Line Voltages"

Title of Master of Science Thesis: "Active Filters using Fuzzy Logic Based PWM Modulators".

Extensive Courses Passed in The Graduate Programs:

Control /Power Fields:

Stochastic Control - Digital Control- Non-Linear Control- Adaptive Control- Multivariable Control - Modern Control- Optimal Control- Stochastic Control- Neural Networks- Power Electronics I- General Theory of Electric Machines- Nonlinear Dynamics of Power Systems- Reactive Power Control in Power Systems

Mathematics Field:

1) Stochastic Processes, 2) Linear and Nonlinear Programming, 3) Real Analysis I, 4) Real Analysis II